

Title of Abstract:

Improving Hand Hygiene Among Armenian Neonatal Nurses and Physicians Using a Multimodal Hand Hygiene Strategy

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Abstract Description:

Background

Healthcare-associated pathogen transmission via healthcare workers' hands results in increased morbidity, especially in resource-limited nations. Hand hygiene is key to reducing healthcare-associated infections (HCAIs) and spread of antimicrobial resistance. Neonatal infection rates are 3-20 times higher in resource-poor countries; half of NICU patients may acquire infections.

SMART Aim

Improve Shengavit Medical Center's NICU physician and nursing hand hygiene adherence from 28% in September 2015 to 53% by March 2016, ultimately to 64% by October 2016.

Secondary Aims

Increase hand hygiene duration by 20% and improve hand hygiene knowledge among providers.

Setting

The pilot project occurred at Shengavit Medical Center, which has 3,072 deliveries and 250 NICU admissions annually, primarily inborn. It spread to NICU's at Beglaryan, Martuni, Slavmed, Margaryan, Muracan, Republican Hospital, Gr. Lusavorich, and Astghik

Mechanisms

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Concerns from a neonatologist with local experience included lack of single-use towels and inconsistent soap and handrub access. Pre-conference questionnaires demonstrated knowledge gaps.

Drivers of Change

Key drivers included knowledge, supplies, environmental reminders, and accountability.

Methods

Using Plan-Do-Study-Act cycles, we employed staggered interventions. We conducted conferences, teaching hand hygiene importance and the World Health Organization (WHO) protocol. We utilized a handwashing activity with simulated germs under UV light. The WHO 5 Moments poster was translated and posted in patient areas and online. We provided gloves and handrub.

Measures

Outcome measures included percent of hand hygiene opportunities seized and hand hygiene duration, via covert observation. We translated the WHO Hand Hygiene Knowledge Questionnaire and administered it to providers before and after conferences. Balancing measures included dry hands, skin breakdown, or local reactions.

Data

Among 121 pre-intervention hand hygiene opportunities and 903 post-intervention, adherence increased from a mean of 53% from September 2015 to February 2016 to a mean of 75% from February 2016 to July 2016, significant per control chart. Duration improved from an 8.8 second mean (95% CI = 6.99 - 10.65) to 16.0 seconds (95% CI 15.13-16.87). Providers choosing the correct questionnaire response to the minimum time for handrub to kill most germs increased from 28.6% to 71.4% ($p=0.005$).

Discussion

Through education, supplies, culture change, and reminders, healthcare providers' hand hygiene knowledge, adherence, and duration improved. Making contacts prior to arrival led to increased productivity.

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